DOCUMENT RESUME

ED 243 117 CS 208 237

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TITLE Sound Advice on Brand Names.
PUB DATE Aug 84
NOTE 25p.; Paper presented at the Annual Meeting of the Association for Education in Journalism and Mass Communication (67th, Gainesville, FL, August 5-8, 1984).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Advertising; *Consonants; Consumer Education; Higher Education; *Media Research; Memory; *Recall (Psychology); *Word Recognition
IDENTIFIERS Brand Names; *Plosives (Phonology)

ABSTRACT

A study was conducted to determine if brand names that begin with consonants called "plosives" (B, C, D, G, K, P, and T) are more readily recalled and recognized than names that begin with other consonants or vowels. Additionally, the study investigated the relationship between name length and memorability, ability to associate names with other things, and ability to recall and recognize names. Subjects were 324 advertising students who completed a three-section questionnaire. The first section required the subjects to think about each of 25 test words, some beginning with plosives and all of varying lengths. Respondents listed as many words or phrases as possible that they associated with the test words during the time allotted. After watching a video tape intended to distract them from the tests, subjects were asked to list as many of the test words as they could remember for the second section of the test. Finally, subjects were given a roster of 50 words from which they were to check those that had appeared on the first part of the test. The results indicated that more respondents recalled and recognized words beginning with plosives than those beginning with other sounds. Recall was significantly greater for one syllable words than for two and three syllable words. Recognition scores were significantly higher for one syllable words than for three syllable words, but not for the two syllable words. (HTH)

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SOUND ADVICE ON BRAND NAMES

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Presented to the Advertising Division, Association for Education in Journalism and Mass Communication, National Convention, Gainesville, Florida, August, 1984.

CS208237

ABSTRACT

SOUND ADVICE ON BRAND NAMES

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The purpose of this study was to determine if names that start with consonants called "plosives" are more readily recalled and recognized than names that begin with other consonants or vowels. Additionally, the study investigated the relationship between name length and memorability. A third area investigated concerned ability to associate names with other things and ability to recall and recognize the names. Findings suggest that starting a brand name with a "plosive increases recall and recognition significantly. Longer words were found to be remembered less frequently than shorter ones, and words eliciting the largest number of associations were recalled more frequently than those eliciting fewer associations.

Presented to the Advertising Division, Association for Education in Journalism and Mass Communications, National Convention, Gainesville, Florida, August 1984.

SOUND ADVICE ON BRAND NAMES

INTRODUCTION

Sometimes words as well as names get their meaning from what they are associated with in our minds. Collins calls this the "Juliet Principle" after Shakespeare's famous line, spoken by Juliet to Romeo, "that which we call a rose, by any other name would smell as sweet."[1] And at other times it is the way a word sounds or its phonetic symbolism that gives it its primary meaning. Collins calls this the "Joyce Principle" in reference to Joyce's use of phonetic symbolism in works like Finnegan's Wake.[2] Marsteller makes humorous reference to the effect of how names sound when he says that the advertising agency name Batten, Barton, Durstine and Osborn sounds "like a trunk bouncing down a flight of stairs."[3] Schloss takes the "Joyce Principle" one step further to the land of brand names and wonders why words that start with or contain K and P sounds are funny (e.g., chickens, pickles, cucumber and porcupine) while words without these sounds are not funny.[4]

Collins concluded, based on a study by Sapir and Newmann, that phonetic elements of language do tend to convey a meaning of their own.[5] While Schloss did not find out why K and P sounds are funny, he did discover that an unusually large number of brand names on Marketing and Media Decisions list of the top 200 brands for 1979 did contain these sounds. In fact, the K sound appeared significantly more frequently than it appears in the dictionary.[6]

Vanden Bergh analyzed Marketing and Media Decisions 1982 brand name list and found not only what Schloss had discovered earlier, but that almost

half of the names listed began with an interesting group of consonants call "plosives."[7] "Plosives" belong to a group of consonants called "stops."[8] They are interesting in the development of brand names because of the way they are voiced and how the way we say them adds strength to the sound of brand names employing them. B, C, D, G, K, P and T are "plosives." Consider the brand names "Bic," "Coca-Cola," "Kodak," and "Pontiac" for example. They all start with "plosives." As you say them air is pushed out of your lungs and held in your mouth until you complete the sound. Then, the sound almost explodes from your mouth creating a popping noise.

Nilsen also identified the use of "plosives" in such brand and commercial names as "Kellogg's" and the "Purple Turtle" restaurant in Scottsdale, Arizona.[9] Vanden Bergh suggested that given the intent of advertisers to have their brand names easily recognized amid the thousands of names in the marketplace, it makes linguistic sense to start a brand name with a strong sounding consonant or a "plosive."[10]

The purpose of this study was to test the notion that names starting with a "plosive" are easier for consumers to recall and recognize than names not starting with this type of strong-sounding consonant. Several studies have been reported involving various aspects of brand name selection and are reviewed here.

LITERATURE REVIEW

Heaton reported the results of a study that employed multiple criteria in the selection of a new company name for a medium-sized consumer and industrial goods manufacturer. As a result of in-depth interviews with 111 adults, Heaton concluded that a good corporate name should be: (1) distinctive, (2) memorable, (3) able to communicate specific favorable

ideas, (4) able to suggest general types of products a company makes, and (5) consistent with a company's product lines and brand names.[11]

Bogart and Lehman executed a study of unaided brand recall by female household heads to determine the factors that make a brand name familiar. After interviewing 400 housewives they concluded that products bought frequently and advertised heavily were the most familiar.[12] Chisnall conducted a study to select a name for aluminum household foil. Seventy-five housewives were interviewed concerning thirteen projected names for the product. Selection of a name was based primarily upon the respondents' positive and negative feelings toward the proposed names as well as the ability of the names to elicit an association with the product. The name selected (Alustar) evoked associations with "stars," "cleanliness," "dynamism," "shining," and "good effort" among the subjects. Additionally, it was rated first in acceptability as a name for aluminum foil.[13]

McNeal and Zeren surveyed 200 consumer products firms from the Fortune 500 list to determine how brand name selection is actually performed. Based on 82 completed questionnaires, McNeal and Zeren concluded that most companies have a formal selection system. The system used by most companies involves the establishment of criteria, employment of top management and outside experts, and use of consumer responses to proposed names.[14]

Peterson and Ross generated random combinations of syllables ranging from words made up of one to three syllables. Twenty-five words survived a rigorous screening process to eliminate existing names and these words were used to test the idea that some sounds are more likely to be associated with certain products than others. Peterson and Ross asked 400 adults to indicate how much each word reminded them of either a breakfast cereal or laundry detergent. They concluded that consumers do have a preconceived idea of what words remind them of certain types of products.[15]

Upon reviewing Schloss' study previously mentioned and Vanden Bergh's hypothesis concerning "plosives,"[17] it occurred to the authors that Peterson and Ross' word list[18] could be used to investigate the effect of word-length and sound-strength on the memorability (i.e., recall and recognition) of hypothetical names. Further inspection of the list revealed that it was fairly evenly split between names starting with "plosives" and "non-plosives." Additionally, the list contained close to an equal number of words of different lengths. This enabled the study to compare the effect of word-length and sound-strength on recall and recognition.

HYPOTHESES

Three different independent variables were studied for their effect on recall and recognition of the names used in the study. First, the authors were concerned with the potential effect of starting a brand name with or without a "plosive" on recall and recognition. The following hypotheses were developed to test this relationship.

H1: Names that begin with a "plosive" will produce higher recall scores than names that do not begin with a "plosive."

H2: Names that begin with a "plosive" will produce higher recognition scores than names that do not begin with a "plosive."

The likelihood that length of the names used in the study would be inversely related to recall and recognition was tested with the following hypotheses.

H3: As the number of syllables increase, recall should decrease.

H4: As the number of syllables increase, recognition should decrease.

Based on the literature that has studied how names are associated with different products and the "Juliet Principle" concerning how names get their meaning from being associated with objects, it was decided to test a

possible extension of this notion by studying the relationship between ability to associate words with other things and ability to recall and recognize names. The following hypotheses were developed to test this relationship.

H5: As the number of associations per word increases, recall should increase.

H6: As the number of associations per word increases, recognition should increase.

METHODOLOGY

Data Collection. Data were gathered from a convenience sample of 324 undergraduate students enrolled in an introductory advertising course at a major midwestern university. The study was conducted during a class day in the 1983 Winter term.

Questionnaire. The test words used in this study were the same words generated by Peterson and Ross.[19] The words were originally generated by computer by randomly combining 2400 mutually exclusive syllables and screening the list down to 25 words. The words met the requirements of this study for the following reasons. First, eleven of the words started with a "plosive" followed by a vowel. This allowed the authors to test hypotheses one and two. Secondly, the list contained words of different lengths so that the study could investigate the influence of word length on memorability. Finally, the words were made up of nonsense syllables. This insured the authors against the possible confounding effect of subject familiarity with the names. The words used in the study are listed in Figure 1.

Insert Figure 1 about here

Study Design and Execution. Each subject answered a written questionnaire which was administered by trained research assistants. Subjects were seated in the testing areas in groups of 25. Each subject received a test booklet and was told not to examine the pages until instructed to do so.

The questionnaire consisted of three sections. The first section required each subject to think about each of the 25 test words, one at a time, for 30 seconds each.[20] Subjects were told that each of these words were "potential product names." During the 30 second exposure, respondents were asked to list as many words or phrases they associated with the test word as possible in the time allotted. When the time was up, subjects were instructed to proceed to the next word in their packet. To alleviate the effects of testing, the order of the words in the packets was systematically rotated.

After the subjects had completed the "associations" part of the study, they viewed a videotape of award winning advertisements for 5 minutes. This viewing was scheduled as a diversion to get the subjects' minds off the words.

The second part of the questionnaire asked respondents to list as many of the test words they could remember in three minutes. Subjects were given credit only for those words which were spelled correctly.

Finally, subjects were given a roster of 50 words from which they were asked to check those that appeared in the first part of the test. Twenty-five bogus words were inserted in the roster as a check against guessing. Again, subjects were given three minutes to complete this portion of the study. The participants were then debriefed and excused from the research setting.

RESULTS

Hypotheses 1 and 2 predicted that starting a name with a "plosive"

would result in significantly higher recall and recognition scores than not using a "plosive." The Wilcoxon Matched-Pairs-Signed-Ranks Test was used to test these hypotheses. This test is superior to the dependent t-test when the sample size is large.[21] Also, the repeated measures nature of the study necessitated using a dependent samples test.

The results reported in Table 1 support the hypothesized relationships. The words beginning with a "plosive" sound were recalled and recognized by a significantly larger proportion of the respondents than words which did not begin with a "plosive."

Insert Table 1 about here

Hypotheses 3 and 4 predicted that as word length increased (i.e., number of syllables), recall and recognition should decrease. A one-way repeated measures analysis of variance was used to test these hypotheses. Table 2 reports the results of these tests which illustrate that there is a significant difference in recall and recognition as the number of syllables in a word increases. Additionally, eta-squared was used to determine the strength of the main effect. It appears that the large sample size has also produced a fairly large effect due to variation across subjects and their interaction with the treatments in both analyses of variance tests.

Insert Table 2 about here

Since the analysis of variance test can only indicate significant differences between the extreme groups in this case, the Newman-Keuls Multiple Range Test was used to determine between which pairs (i.e., one, two and three syllable groups) differences might exist. Table 3 illustrates that significant differences in recall existed between the three possible pairs.

Recall was significantly greater for one-syllable words than two and three syllable words. Also, recall was significantly greater for two-syllable words than three-syllable words.

The same analysis was performed on the recognition variable. In this case, recognition scores were significantly higher for the one-syllable words than for the three-syllable words, but not significantly higher than for the two-syllable words. Additionally, recognition was higher for the two-syllable words than it was for the three-syllable words. These results also appear in Table 3.

Insert Table 3 about here

Hypotheses 5 and 6 predicted a positive relationship between the number of associations each word elicited from a subject and the subjects ability to recall and recognize the word. This relationship was tested by computing a correlation coefficient between association and recall, and association and recognition. The results reported in Table 4 illustrate a significant positive relationship between associations and recall. The hypothesized relationship between association and recognition, however, is not supported.

Insert Table 4 about here

DISCUSSION

Post Hoc Analysis

The results of this study support all of the hypotheses with the exception of hypothesis 6. However, because of the large effects due to subjects and their interaction with the treatments found in Table 2 additional analysis was desired.

A possible explanation for these effects is that the "plosive" treatments within the categories of "one syllable," "two syllables," and "three syllables" are confounding the results. To examine this possibility, a repeated measures ANOVA was used to analyze the "plosive" by syllable structure on recall simultaneously. The same analysis was also run for the recognition dependent variable. These results are reported in Table 5.

Insert Table 5 about here

Again, statistical significance is found for the omnibus F for both recall and recognition. However, the interaction terms in each of the analyses is larger than the effect due to phonetic structure. This means that within subjects, recall and recognition differences exist, but they tend to be different for different subjects. A likely explanation of this is the error associated with the sample.

By looking at the Newman-Keuls analysis for each of the ANOVAs, it appears that the one phonetic structure which is consistent in terms of being statistically different than the other structures, across both dependent variables, is the "plosive"-one syllable structure (see Tables 6 and 7).

Insert Tables 6 and 7 about here

CONCLUSION

This study attempted to examine the effect of using "plosives" to start brand names on the recall and recognition of the names. Recall and recognition were used as dependent measures because one of the main criteria for naming products is that they be easily recognized and recalled. Other studies have

examined how certain words are associated with a product category through phonetic symbolism. This study was an extension of the Schloss and Vanden Bergh studies which noted that many of the top brand names begin with certain sounds. This study finds evidence that words that begin with a "plosive" are more frequently recalled and recognized than words that do not start with a "plosive."

While it is recognized that memorability is not the only goal in the brand name selection process, the apparent effect of the type of sound selected to begin a name with is an important variable to consider in choosing names that must compete against the clutter of the marketplace for a spot in consumers' minds.

Footnotes

1 Leslie Collins, "A Name to Conjure With," European Journal of Marketing, 11:340-363 (1977).

2 Ibid., p. 344.

3 William A. Marsteller, Creative Management, (Chicago: Crain Books, 1981), p. 152.

4 Ira Schloss, "Chickens and Pickles," Journal of Advertising Research, 21:47-49 (December 1981).

5 Collins, op. cit., p. 346.

6 Schloss, op. cit.

7 Bruce G. Vanden Bergh, "Feedback: More Chickens and Pickles," Journal of Advertising Research, 22:44 (December 1982/January 1983).

8 David Abercrombie, Elements of General Phonetics, (Great Britain: Edinburgh University Press, 1967), p. 48 and chapter 9.

9 Don L. F. Nilsen, "Language Play in Advertising: Linguistic Invention in Product Naming," James Alatis and Richard Tucker, ed., Language in Public Life, (Georgetown: Georgetown University Press, 1979), pp. 137-143.

10 Vanden Bergh, op. cit.

11 Eugene E. Heaton, Jr., "Testing a Corporate Name," Journal of Marketing Research, IV: 279-85 (August 1967).

12 Leo Bogart, and Charles Lehman, "What Makes a Brand Name Familiar?" Journal of Marketing Research, X: 17-22 (February 1973).

13 P. M. Chisnall, "Aluminum Household Foil in the Common Market: Research for an Effective Brand Name," Journal of Management Studies, 11:246-55 (October 1974).

14 James U. McNeal, and Linda M. Zeren, "Brand Name Selection for Consumer Products," MSU Business Topics, 29:35-39 (Spring 1981).

15 Robert A. Peterson, and Ivan Ross, "How to Name New Brands," Journal of Advertising Research, 12:29-34 (December 1972).

16 Schloss, op. cit.

17 Vanden Bergh, op. cit.

18 Peterson and Ross, op. cit., p. 30.

19 Ibid.

20 This study tested the impact of "plosives" through the use of a written medium even though phonetics deals primarily with language transmitted aurally. Since our written language is based on our aural or spoken language, letters are symbols of the sounds they make when we speak them. The same sounds will be elicited in the subjects mind whether he reads the words or has them spoken to him. (See Abercrombie, op. cit., pp. 17-19.)

21 Dean J. Champion, Basic Statistics for Social Research, (USA: Chandler Publishing Co., 1970), p. 168.

FIGURE 1

WORDS USED IN STUDY

One Syllable		Two Syllables		Three Syllables	
Plosives	Non-Plosives	Plosives	Non-Plosives	Plosives	Non-Plosives
Dics	Jaf	Dallaks	Nemlads	Pelalate	Abadar
Bils	Vade	Dadnains	Hezate	Kenilay	Ackexma
Ke	Vig	Carriss	Whumies	Gaymamad	Nurpama
	Quax	Camfo	Adgel		Alarrusk
		Dehax	Vosstain		
			Habus		

TABLE 1

IMPACT OF USE OF PLOSIVES ON
NAME RECALL AND RECOGNITION*

	AVERAGE PROPORTION	
	Recalling	Recognizing
Plosive	.155	.920
Non-Plosive	.108	.890
Z	6.50	4.31
P	.01	.01

* Wilcoxon Matched-Pairs-Signed-Ranks Test

TABLE 2

IMPACT OF NUMBER OF SYLLABLES
ON NAME RECALL AND RECOGNITION

	ANOVA				
	F Ratio	Probability	Between Syllables	Within Subjects	Interaction
RECALL	376.38	.0001	.375	.303	.322
RECOGNITION	10.11	.0001	.013	.554	.432

TABLE 3

NEWMAN-KEUL TEST OF DIFFERENCE
BETWEEN RECALL MEANS AND RECOGNITION MEANS

	DIFFERENCES BETWEEN AVERAGE PROPORTIONS			
	RECALLING		RECOGNIZING	
	Two Syllables	Three Syllables	Two Syllables	Three Syllables
One Syllable	.190*	.244*	.0137	.0374*
Two Syllables	--	.054*	--	.0237**

* $p < .01$
** $p < .05$

TABLE 4

CORRELATION OF NUMBER OF
ASSOCIATIONS BY RECALL AND RECOGNITION

	Correlation	t	p
Recall	.395	2.06	.05
Recognition	.329	1.67	NS

TABLE 5

IMPACT OF NUMBER OF SYLLABLES AND
USE OF PLOSIVES ON NAME RECALL AND RECOGNITION

	ANOVA				
			eta squared		
	F Ratio	Probability	Between Treatments	Within Subjects	Interaction
RECALL	184.30	.0001	.29	.20	.51
RECOGNITION	18.72	.0001	.04	.34	.62

TABLE 6

NEWMAN-KEUL TEST OF DIFFERENCE
BETWEEN RECALL MEANS

	DIFFERENCES BETWEEN AVERAGE PROPORTION RECALLING				
	Plosive/ 2 Syllables	Plosive/ 3 Syllables	Non-Plosive/ 1 Syllable	Non-Plosive/ 2 Syllables	Non-Plosive/ 3 Syllables
Plosive/ 1 Syllable	.2619**	.3035**	.1340**	.2701**	.3339**
Plosive/ 2 Syllables		.0416*	.1279**	.0082	.0720**
Plosive/ 3 Syllables			.1695**	.0334	.0304
Non-Plosive/ 1 Syllable				.1361**	.1999**
Non-Plosive/ 2 Syllables					.0638**

* $p < .05$, two-tailed test
** $p < .01$, two-tailed test

TABLE 7

NEWMAN-KEUL TEST OF DIFFERENCE
BETWEEN RECOGNITION MEANS

	DIFFERENCES BETWEEN AVERAGE PROPORTION RECOGNIZING				
	Plosive/ 2 Syllables	Plosive/ 3 Syllables	Non-Plosive/ 1 Syllable	Non-Plosive/ 2 Syllables	Non-Plosive/ 3 Syllables
Plosive/ 1 Syllable	.0626*	.0833*	.0900*	.0674*	.0931*
Plosive/ 2 Syllables		.0207	.0274	.0048	.0305
Plosive/ 3 Syllables			.0067	.0159	.0098
Non-Plosive/ 1 Syllable				.0226	.0031
Non-Plosive/ 2 Syllables					.0257

* $p < .01$, two-tailed test